Docket No.:   2003P12437

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

Applic. No.   :   10/569,780   Confirmation No.: 5979
Inventor   :   Miguel De Vega Rodrigo
Filed   :   February 24, 2006
Title   :   Method for Transmitting Data Packets
TC/A.U.   :   2467
Examiner   :   Anez C. Ebrahim
Customer No.   :   24131

Hon. Commissioner for Patents
Alexandria, VA 22313-1450

BRIEF ON APPEAL

S i r :

This is an appeal from the final rejection in the Office action dated June

22, 2011, finally rejecting claims 1-18.

Appellants submit this *Brief on Appeal* including payment in the amount

of $620.00 to cover the fee for filing the *Brief on Appeal*.

Real Party in Interest:

This application is assigned to Nokia Siemens Networks GmbH & Co.

KG. of Muenchen, Germany. The assignment is record at Reel/Frame

number 021786/0236.

Related Appeals and Interferences:

No related appeals or interference proceedings are currently pending

which would directly affect or be directly affected by or have a bearing

on the Board's decision in this appeal.

Status of Claims:

Claims 9-18 are rejected and are under appeal. Claims 1-8 were

canceled.

Status of Amendments:

No claims were amended after the final Office action. *A Notice of*

Appeal was filed on September 23, 2011.

Summary of the Claimed Subject Matter:

The subject matter of each independent claim is described in the

specification of the instant application. Examples explaining the subject

matter defined in each of the independent claims, referring to the

originally filed translated specification by page and line numbers, and to

the drawings, are given below.

Independent claim 9 reads as follows:

A method for transmitting data packets between a first

communications network node [page 3, line 31; A, Fig. 2] and a

second communications network node [page 4, line 1; D, Fig. 2] of a

communications optical network [page 4, lines 7-10; S1-S7, A-G, Fig.

3], comprising:

　　　reserving a data channel [page 3, lines 18-19; λ1, Fig. 2] for

transmitting a first data burst [page 3, line 31; BURST1, Fig. 2] having

aggregated data packets;

　　　transmitting the first data burst [page 3, line 31; BURST1, Fig. 2]

via the data channel [page 3, lines 18-19; λ1, Fig. 2];

　　　retaining the data channel [page 3, lines 18-19; λ1, Fig. 2] for a

consecutive transmission phase [page 4, line 18; P1, Fig. 3] after

transmitting the first data burst [page 3, line 31; BURST1, Fig. 2];

　　　transmitting additional non aggregated data packets

[page 4, line 2; IP_{OF}, Fig. 2] on-the-fly between the nodes [page

3, line 31 and page 4, line 1; A and D, Fig. 2] during the consecutive transmission phase [page 4, line 18; P1, Fig. 3]; and

terminating the connection while data packets [page 4, line 2; IP_{OF}, Fig. 2] are transmitted on-the-fly when the data channel [page 3, lines 18-19; λ1, Fig. 2] is at least partially required for transmitting a second data burst [page 3, line 34; BURST2, Fig. 2] via another connection between further communication network nodes [page 4, line 29; D, E, Fig. 3].

Grounds of Rejection to be Reviewed on Appeal

1. Whether or not claims 9-11 and 14 are obvious over U. S. Patent No. 6,671,256 to Xiong et al., U.S. Patent No. 6,882,766 to Corbalis et al. and further in view of U.S. Publication No. 2002/0114043 A1 to Kozaki et al. under 35 U.S.C. § 103.

2. Whether or not claims 12-13 and 19 are obvious over U.S. Patent No. 6,671,256 to Xiong et al., U.S. Patent No. 6,882,766 to Corbalis et al., U.S. Publication No. 2002/0114043 A1 to Kozaki et al. and further in view of U.S. Patent No. 6,167,042 to Garland et al. under 35 U.S.C. § 103.

3. Whether or not claim 15 is obvious over U.S. Patent No. 6,671,256 to Xiong et al., U.S. Patent No. 6,882,766 to Corbalis et al., U.S. Publication No. 2002/0114043 A1 to Kozaki et al. and further in view of U.S. Publication No. 2003/0007219 A1 to Stilling under 35 U.S.C. § 103.

4. Whether or not claims 16-17 are obvious over U.S. Patent No. 6,671,256 to Xiong et al., U.S. Patent No. 6,882,766 to Corbalis et al., U.S. Publication No. 2002/0114043 A1 to Kozaki et al. and further in view of U.S. Patent No. 6,167,042 to Garland under 35 U.S.C. § 103.

Argument:

Claims 9-11 and 14 are not obvious over Xiong et al., Corbalis et al. and Kozaki et al.

Claim 9

With respect to claim 9, the Examiner states that Xiong teaches:

1) "a method for transmitting data packets between a first

communication network node and a second communication

network node;

2) "reserving a data channel";

3) "transmitting a first data burst having aggregated data packets"

on the data channel; and

4) "retaining the data channel for a consecutive transmission

phase" after transmitting a first data burst.

With respect to **1**) "a method for transmitting data packets…": Only the

transmission of a burst is disclosed by Xiong. The purpose of the Xiong

invention is disclosed in column 2, lines 37-40 which states: "The

present invention provides yet another technical advantage by reducing

the gaps/voids between bursts transmitted on reserved data channels,

which in turn increase the data channel utilization." Xiong describes

only the transmission of a data burst and <u>not</u> the transmission of non

aggregated (IP) data packets on-the-fly as required by claim 9. This

general feature does neither explain how the data packets are

transmitted nor if a data burst and non aggregated data packets are transmitted. In contrast to Xiong, in the present invention, bursts and data packets are transmitted (FIG 2).

With respect to **2**) "reserving a data channel...": In a conventional optical burst switching system, first a time slot is reserved for transmitting a data burst, and the channel is only blocked for other connections while the data burst is transmitted. Xiong uses this method for conventional transmission of data bursts too. Xiong describes (column 9, lines 66-67 and more exact in column 4, lines 33-47 and in addition column 8, lines 27-42) that according to his invention a channel (wavelength) in a "reserved state" is completely reserved for the transmission via a single connection; that means the channel is blocked for all other connections and "bursts cannot be scheduled on the reserved data channel in the normal way" (column 4, lines 44-47). The channel reservation is controlled by the traffic at the sending node and only this node cancels the reservation when the traffic drops below a threshold (column 8, lines 35-38).

According to the claimed invention, the channel λ1 is first reserved for the transmission of a single data burst BURST1. This is the standard

burst reservation method, which is explained in paragraph [0017] of the filed Substitute Specification. Then the connection – not the reservation – is retained for transmitting data packets in the consecutive phase. According to paragraphs [0017] and [0018] the consecutive phase is regarded as free and can be interrupted for other burst traffic connections transmitting BURST2 (FIG 2 and [0017]) as soon as this is required. The channel is not blocked as taught by Xiong (column 4, lines 33-47), but can be used for additional connections.

With respect to **3**) "transmitting a first data burst having aggregated data packets…": Xiong and the system in the instant invention transmit a first data burst (and a plurality of bursts) via a new connection. However, in the instant invention, after the first burst is transmitted and the channel is available during the consecutive phase, only data packets are transmitted on-the-fly.

With respect to **4**) "retaining the data channel for a consecutive transmission phase….": This cannot be derived from Fig 2 showing an optical network. The passages cited by the Examiner, namely Column 10, lines 9-10 and column 9, lines 14-17, on the other hand, refer to the reservation and termination of a channel by a burst transmitting ingress

node itself. According to Xiong, the channel is reserved by a channel reservation bit. If the channel has to be terminated, an "unreserved channel bit RD = 0" is sent (Column 9, lines 14-18). Xiong teaches a reservation of the data channel as explained under 2), which is quite different from retaining this channel for further transmission of non aggregated data packets as already explained above. According to the instant invention, the "retaining connection" is used to transmit further data packets over the channel. The connection is interrupted as soon the channel is needed for another connection.

The Examiner states (page 4 first paragraph) that Xiong is silent, but Corbalis teaches terminating the connection only when the data channel is at least partially required for transmitting a second data burst. Appellants respectfully disagree that Corbalis discloses this limitation. It is respectfully submitted that the Examiner's statement that "while data packets are transmitted on-the-fly" is erroneous. Corbalis does not disclose that "data packets are transmitted on-the-fly". Additionally, Corbalis refers to an optical switch fabric, not a burst switching system. Nor does the reference disclose the connection between the nodes or how a connection in a burst switching system is reserved or terminated. More specifically, Corbalis, (at Column 1, lines

53-59) states: "Problems with rearrangeable nonblocking switches include the fact that the required device settings to route connections through the switch are not determined easily and that connections in progress may have to be interrupted momentarily while rerouting takes place to handle the new connections." Significantly, this is an unwanted interruption that causes a failure. Therefore, Corbalis teaches away from the claimed feature and suggests a redundant switch to avoid unnecessary interruptions (abstract).

Therefore, in contrast to claim 9, the combination of Xiong and Corbalis does not disclose a burst switching system where a connection is reserved when a burst is transmitted and only terminated when data packets are transmitted on-the-fly.

Then the Examiner states, on page 4 of the Office Action, third paragraph that: "Combination of Xiong and Corbalis is silent, but Kozaki teaches transmitting additional non-aggregated data packets on-the-fly between the nodes during the consecutive transmission phase (Para [0014], burst data may be transmitted on real time property or on the fly such that state that a delay is reduced as much as possible)." Appellants respectfully disagree.

Kozaki, at paragraph [0014], reads: "The data to be input into the buffer memory 25a of the slave station apparatus 20-1 are periodic data 26a, and the data to be input into the buffer memory 256 are burst data 266. The data reading section 24 makes control so as to read the periodic data 26a in the buffer memory 25a in preference to the burst data 266 in the buffer memory 25a in preference to the burst data 26b in the buffer memory 25b. This is because the burst data to be input in the burst manner do not normally require real-time property unlike sound data, and even if transmission is delayed to a certain extent, all of the burst data may the transmitted, but as the periodic data require real-time property, it is necessary that the periodic data have periodicity and are transmitted in a state that a delay is reduced as much as possible".

Kozaki discloses a burst transmission system "where periodic data and burst data are multiplexed ...." See, paragraph [0020]. The data streams are transmitted by two different data sources. The first data stream is transmitted periodically, and the second data stream is converted into bursts and inserted between the periodic data (FIG. 11). Therefore, Kozaki does not disclose transmitting data packets on-the-fly, as required by claim 9. Significantly, in the claim 9, a single data

stream is transmitted as bursts and as data packets on-the-fly to gain a better transmission performance.

Therefore the combination of teachings in Xiong, Corbalis, and Kozaki would not have suggested the invention as defined by claim 9.

Claim 11

With respect to claim 11, the Examiner cites Xiong at column 2, lines. 16-19. This paragraph describes the reservation mechanism, not that the reservation is only possible during a consecutive phase. That is, according to the instant invention, data packets are transmitted on-the-fly and that the data channel is not reserved for the consecutive phase. This is contrary to Xiong. Xiong does not disclose the transmission of data packets on-the-fly during a consecutive phase. Rather, according to Xiong, the channel is reserved (Column 9, line 66 - Column 10, line 11) or not reserved Column 9, lines 14-18).

Claims 12-13 and 19 are not obvious over Xiong et al., Corbalis et al., Kozaki et al. and Garland et al.

The invention as defined by claims 12-13 and 18 would not have been suggested for the reasons given above with regard to claim 9 and the teachings in Xiong, Corbalis, and Kozaki.

Claim 15 is not obvious over Xiong et al., Corbalis et al., Kozaki et al. and Stilling

The invention as defined by claim 15 would not have been suggested for the reasons given above with regard to claim 9 and the teachings in Xiong, Corbalis, and Kozaki.

Claims 16-17 are not obvious over Xiong et al., Corbalis et al., Kozaki et al. and Garland

The invention as defined by claims 16 and 17 would not have been suggested for the reasons given above with regard to claim 9 and the teachings in Xiong, Corbalis, and Kozaki.

The honorable Board is therefore respectfully urged to reverse the final

rejection of the Primary Examiner.

If an extension of time is required for this submission, petition for

extension is herewith made. Any fees due should be charged to

Deposit Account No. 12-1099 of Lerner Greenberg Stemer LLP.

Respectfully submitted,

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Claims Appendix:

9. A method for transmitting data packets between a first communications network node and a second communications network node of a communications optical network, comprising:

reserving a data channel for transmitting a first data burst having aggregated data packets;

transmitting the first data burst via the data channel;

retaining the data channel for a consecutive transmission phase after transmitting the first data burst;

transmitting additional non aggregated data packets on-the-fly between the nodes during the consecutive transmission phase; and

terminating the connection while data packets are transmitted on-the-fly when the data channel is at least partially required for transmitting a second data burst via another connection between further communication network nodes.

10. The method according to claim 9, wherein a request to reserve transmission capacity for the new connection is sent by a reservation-requiring network node via switching devices of the network to an end

node, wherein the third node is the reservation- requiring network node, and wherein the fourth node is the end node.

11. The method according to claim 10, wherein transmission capacity for the new connection is only reserved during the consecutive transmission phase.

12. The method according to claim 10, wherein a disconnect signal is transmitted via the switching devices present in the devices present in the first connection to the first node.

13. The method according to claim 10, wherein a disconnect signal is transmitted via the switching devices present in the devices present in the first connection to the first node.

14. The method according to claim 10, wherein transmission capacity is reserved according to a two-way reservation optical burst switching principle via a request and an acknowledgement.

15. The method according to claim 14, wherein the transmission capacity is reserved for bidirectional connections.

16. The method according to claim 15, wherein to reserve the

transmission capacity, the disconnect signal is sent to the first and second nodes.

17. The method according to claim 16, wherein a disconnect signal is only sent when an acknowledgement is issued by the end node receiving the request to reserve the transmission capacity.

18. The method according to claim 12, wherein a disconnect signal is only sent when an acknowledgement is issued by the end node receiving a request to reserve the transmission capacity.

Evidence Appendix:

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or any other

evidence has been entered by the Examiner and relied upon by

appellant in the appeal.

Related Proceedings Appendix:

No prior or pending appeals, interferences or judicial proceedings are in existence which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal. Accordingly, no copies of decisions rendered by a court or the Board are available.